

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,119,903 B1
 APPLICATION NO. : 10/692704
 DATED : October 10, 2006
 INVENTOR(S) : Brian B. Jones

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE SPECIFICATION:

Column 6, Line 55: remove "(i.e.," after "integrand"

Column 10, line 20, replace: " $\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2 \theta_{spec}$ "
 with: $-\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2 \theta_{spec}$ --

Column 10, line 22, replace: "0 ≤ r ≤ R" with --0 < r ≤ R--

Column 10, line 23, replace: "0 < $\phi \leq 2\pi$." with --0 < $\phi \leq 2\pi$ --

Column 10, line 49, replace: " $\rho^2 = \rho_{spec}^2 + r^2 + \rho_{spec} r \cos\psi_{spec} \cos\phi + \rho_{spec} \sin\psi_{spec} r \sin\phi$."
 with: $-\rho^2 = \rho_{spec}^2 + r^2 + \rho_{spec} r \cos\psi_{spec} \cos\phi + \rho_{spec} \sin\psi_{spec} r \sin\phi$ --

Column 10, line 52, replace: " $\rho \leq R$ " with -- $\rho \leq R$ --

Column 10, line 55, replace: " $\frac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec} r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$."

with: $--\frac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec} r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$ --

Column 10, line 59, delete equation: " $\geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$."

Column 11, line 5, replace: " $\frac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec} r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$."

with: $--\frac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec} r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$ --

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Column 11, line 10, delete
 $\cos\psi_{spec} \cos\phi + \sin\psi_{spec}$ $\beta'^2 = \frac{z_0^2}{z_0^2 + r^2} - \frac{2z_0 \sin\theta_0}{\sqrt{z_0^2 + r^2}} + \sin^2\theta_0 \sin\phi$ equation: "≥"

Column 12, line 7, re- $\beta'^2 = \frac{z_0^2}{z_0^2 + r^2} - \frac{2z_0 \sin\theta_0}{\sqrt{z_0^2 + r^2}} + \sin^2\theta_0$ place: " "

Column 12, line 20, replace: $\frac{d\beta'}{dr} = \left(\frac{z_0^2}{z_0^2 + r^2} - \frac{2z_0 \sin\theta_0}{\sqrt{r^2 + z_0^2}} + \sin^2\theta_0 \right)^{-\frac{1}{2}} \left(\frac{z_0^2 r}{(z_0^2 + r^2)} - \frac{z_0 r \sin\theta_0}{(z_0^2 + r^2)^{3/2}} \right)$

" $\frac{d\beta'}{dr} = \left(\frac{z_0^2}{z_0^2 + r^2} - \frac{2z_0 \sin\theta_0}{\sqrt{r^2 + z_0^2}} + \sin^2\theta_0 \right)^{-\frac{1}{2}} \left(\frac{z_0^2 r}{(z_0^2 + r^2)} - \frac{z_0 r \sin\theta_0}{(z_0^2 + r^2)^{3/2}} \right)$

with: --

$$\frac{dp}{d\Omega} = \frac{1}{I_s l(r) r} \left(\frac{d\beta'}{dr} \right) \frac{dBRDF}{d\beta'}$$

$$\frac{dp}{d\Omega} = \frac{1}{I_s l(r) r} \left(\frac{d\beta'}{dr} \right) \frac{dBRDF}{d\beta'}$$

Column 12, line 37,

$$\int_D \frac{dp(|\beta - \beta_0|)}{d\Omega} \sqrt{k_1} \left| \frac{\partial(\theta, \phi)}{\partial(k_1 k_2)} \right| dk_1 dk_2 \text{ replace: " "}$$

with: -- --

$$\int_D \frac{dp(|\beta - \beta_0|)}{d\Omega} \sqrt{k_1} \left| \frac{\partial(\theta, \phi)}{\partial(k_1 k_2)} \right| dk_1 dk_2$$

Column 13, line 63, replace:

$$\frac{\partial\phi}{\partial k_1}, \quad \frac{\partial\phi}{\partial k_2}$$

"BRDF = "

with: --BRDF = --

Column 15, line 3, replace: " " with: -- ,--

Column 15, lines 32-33,

replace: "cos⁻¹(sinθ₁ cosφ₁ sinθ₂ cosφ₂ + sinθ₁ sinφ₁ sinθ₂ sinφ₂ + cosθ₁ cosθ₂) ≤ α"

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with: $-\cos^{-1}(\sin\theta_1 \cos\phi_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leq \alpha$

Column 16, line 37, replace: $\frac{dp}{d\Omega} = \frac{1}{I_s l(r)r} \left(\frac{d\beta'}{dr} \right) \frac{dBRDF}{d\beta'}$. “l(r)” with $-\ell(r)$

Column 16, line 45, replace:
 with: $\frac{dp}{d\Omega} = \frac{1}{I_s \ell(r)r} \left(\frac{d\beta'}{dr} \right) \frac{dBRDF}{d\beta'}$. $\geq \cos\psi_{spec} \cos\phi +$
 $\sin\psi_{spec} \sin\phi$, and”

$\sin\psi_{spec} \sin\phi$, and--

Column 16, line 50, replace: “ ”

2 2

with: ---

Column 17, line 19, delete: “; and”

Column 17, line 20, replace: $\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2 \theta_{spec}$
 with: $-\rho_{spec} = \rho_0 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0 \tan^2 \theta_{spec}$

Column 17, line 22, add: --; and-- before “(c)”.

Column 17, line 30,

replace:
 $\cos\phi_1 \frac{1}{P_i} \frac{1}{\Omega_i} \int_{\Omega_i} \int_{Area} \int_{\Omega_d} \frac{d^2 P_i}{d\Omega_i dA} \frac{dp_d(\Omega_i, \Omega_d, A)}{d\Omega_d} d\Omega_i dA d\Omega_d$, $\cos^{-1}(\sin\theta_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leq \alpha$
 $+\sin\theta_1$
 $\sin\theta_2 \sin\phi_2 + \frac{1}{P_i} \frac{1}{\Omega_i} \int_{\Omega_i} \int_{Area} \int_{\Omega_d} \frac{d^2 P_i}{d\Omega_i dA} \frac{dp_d(\Omega_i, \Omega_d, A)}{d\Omega_d} d\Omega_i dA d\Omega_d$, $\cos\theta_1$
 $\cos\theta_2) \leq \alpha$
 with: $-\cos^{-1}(\sin\theta_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leq \alpha$

IN THE CLAIMS:

Column 21, line 15, replace:

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"BRDF = "

$$\int_D \frac{dp(|\beta - \beta_0|)}{d\Omega} \sqrt{k_1} \left| \frac{\partial(\theta, \phi)}{\partial(k_1, k_2)} \right| dk_1 dk_2,$$

with: --BRDF = --

$$\int_D \frac{dp(|\beta - \beta_0|)}{d\Omega} \sqrt{k_1} \left| \frac{\partial(\theta, \phi)}{\partial(k_1, k_2)} \right| dk_1 dk_2,$$

Column 21, line 29, replace "P_i is incident power of the electromagnetic radiation."
with -- P_i is the incident power of the electromagnetic
radiation.--

Column 21, line 58, remove: "for" after "|\beta - \beta_0| = θ_i + θ_d".

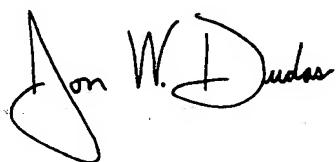
Column 21, line 59, add: --for-- before "being".

Column 21, line 65, replace: "BRDF = "

with: --BRDF = --

Signed and Sealed this

Twenty-fifth Day of September, 2007



JON W. DUDAS
Director of the United States Patent and Trademark Office